

Title (en)

One step method for casting hydrogels for tissue engineering

Title (de)

Einschritt-Verfahren zum Gießen von Hydrogels für Gewebe-Engineering

Title (fr)

Procédé en une étape de moulage d'hydrogels pour le génie tissulaire

Publication

EP 2703018 A1 20140305 (EN)

Application

EP 12182569 A 20120831

Priority

EP 12182569 A 20120831

Abstract (en)

The present invention discloses a method for producing a hydrogel with one or more channels or a network of channels, said channels having a diameter of 1 cm to 50 μm , wherein one or more longitudinal members or a network of longitudinal members of a first material, said first material having a solubility in water at 25°C of 5 to 500 g/l, is provided and a hydrogel of a second material is formed which hydrogel covers and includes the longitudinal members at least partially and wherein the longitudinal member(s) is (are) at least partially removed from the hydrogel in the course of the formation of the hydrogel to form a hydrogel with one or more channels or a network of channels.

IPC 8 full level

A61L 27/52 (2006.01); **A61L 27/56** (2006.01)

CPC (source: EP)

A61L 27/225 (2013.01); **A61L 27/26** (2013.01); **A61L 27/3808** (2013.01); **A61L 27/3834** (2013.01); **A61L 27/3839** (2013.01); **A61L 27/507** (2013.01); **A61L 27/52** (2013.01); **A61L 27/56** (2013.01); **A61L 2400/08** (2013.01)

Citation (applicant)

- WO 2006003442 A2 20060112 - UCL BIOMEDICA PLC [GB], et al
- US RE38913 E 20051206 - PAVLYK BORIS IVANOVICH [UA]
- MOON ET AL., TISSUE ENG. A, vol. 15, 2009, pages 579 - 585
- ROUWKEMA ET AL., T. BIOTECH., vol. 26, 2008, pages 434 - 441
- LOVETT ET AL., TISSUE ENG. B, vol. 15, 2009, pages 353 - 370
- NOROTTE ET AL., BIOMAT., vol. 30, 2009, pages 5910 - 5917
- BEHRA ET AL., MACROM. RAP. COMM., vol. 33, 2012, pages 1049 - 1054
- LEE ET AL., BIOTECH. BIOENG., vol. 105, 2010, pages 1178 - 1186
- CUI ET AL., BIOMAT., vol. 30, 2009, pages 6221 - 6227
- CHROBACK ET AL., MICROVASC. RES., vol. 71, 2006, pages 185 - 196
- GOLDEN ET AL., LAB CHIP, vol. 7, 2007, pages 720 - 725
- HUANG ET AL., BIOFAB., vol. 3, 2011, pages 012001
- AHMADI ET AL., J BIOMED MATER RES A., vol. 86, 2008, pages 824 - 32
- FERREIRA ET AL., J BIOMED MATER RES A., vol. 68, 2004, pages 584 - 96
- LI ET AL., NATURE MATERIALS, vol. 10, 2011, pages 149 - 156
- DE GROOT ET AL., BIOMAT, vol. 22, 2001, pages 1197 - 1203

Citation (search report)

- [XII] US 2012058174 A1 20120308 - WEST JENNIFER L [US], et al
- [X] US 2008274185 A1 20081106 - MAO JEREMY [US]
- [X] WONHYE LEE ET AL: "On-demand three-dimensional freeform fabrication of multi-layered hydrogel scaffold with fluidic channels", BIOTECHNOLOGY AND BIOENGINEERING, WILEY & SONS, HOBOKEN, NJ, US, vol. 105, no. 6, 15 April 2010 (2010-04-15), pages 1178 - 1186, XP002657090, ISSN: 0006-3592, [retrieved on 20091201], DOI: 10.1002/BIT.22613

Cited by

CN112225937A; CN110859999A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2703018 A1 20140305

DOCDB simple family (application)

EP 12182569 A 20120831